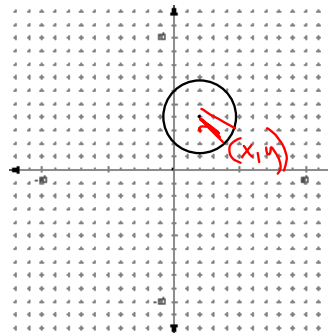


10-7
Write and Graph
Equations of Circles



Center (2,4)

$$r = \sqrt{(x-2)^2 + (y-4)^2}$$

$$r^2 = (x-2)^2 + (y-4)^2$$

$$r^2 = (x-h)^2 + (y-k)^2$$

$$C(h, k)$$

$r \rightarrow$ radius

Write the equation of a circle with:

$C(3, -3)$ and $d = 12$

$$r = 6$$

$$36 = (x-3)^2 + (y+3)^2$$

Write the equation of a circle with:
C(-12, -1) and $r = 8$

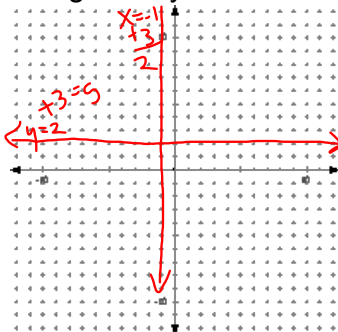
$$64 = (x+12)^2 + (y+1)^2$$

Write the equation of a circle with:
Diameter endpoints(-3, -2) and (9, 4)

$$\begin{aligned} M & \left(\frac{-3+9}{2}, \frac{-2+4}{2} \right) \\ C & (3, 1) \\ r^2 & = (x-3)^2 + (y-1)^2 \\ & = 9-3 \quad 4-1 \\ & \quad 36 + 9 \\ 45 & = (x-3)^2 + (y-1)^2 \end{aligned}$$

Write the equation of a circle with:

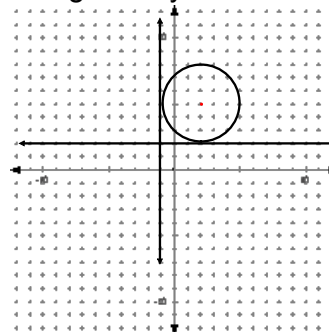
- Center in quadrant I
- $d = 6$ $r = 3$
- tangent to $y = 2$ and $x = -1$



$$\begin{aligned} C & (2, 5) \\ 9 & = (x-2)^2 + (y-5)^2 \end{aligned}$$

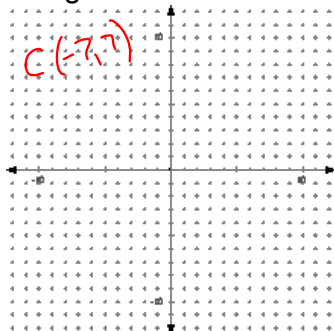
Write the equation of a circle with:

- Center in quadrant I
- $d = 6$
- tangent to $y = 2$ and $x = -1$



Write the equation of a circle with:

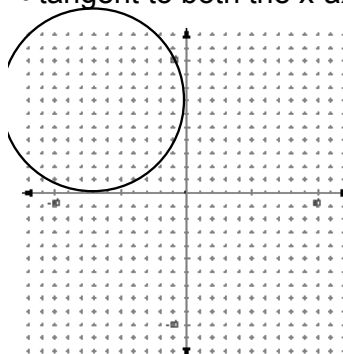
- Center in quadrant II
- $r = 7$
- tangent to both the x-axis and y-axis



$$49 = (x+7)^2 + (y-7)^2$$

Write the equation of a circle with:

- Center in quadrant II
- $r = 7$
- tangent to both the x-axis and y-axis



Write the equation of a circle with:

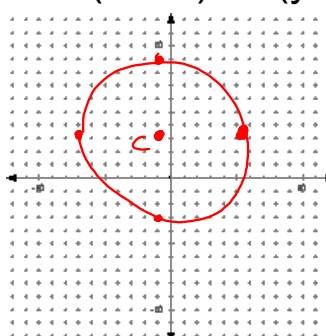
$C(4, 2)$ and a point on the circle $(8, -1)$

$$r^2 = (x-4)^2 + (y-2)^2$$

$$25 = (x-4)^2 + (y-2)^2$$

Graph the following circle:

$$36 = (x + 1)^2 + (y - 3)^2$$

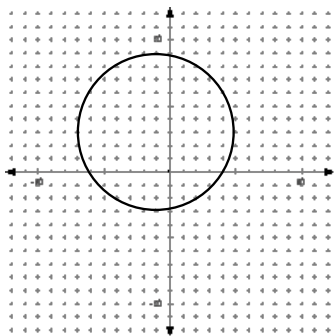


$$C(-1, 3)$$

$$r = 6$$

Graph the following circle:

$$36 = (x + 1)^2 + (y - 3)^2$$



$$x^2 + y^2 = 16$$

What is the center?

(0, 0)

What is the radius?

r = 4

HW

p702-703

3, 4, 10, 13, 17-23 odd 31